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ABSTRACT

Models of action-planning systems, planning methods, and implementation schemes for rural development are presented in this paper. The Dutch experience describes the elements of rural planning and contributing sciences or skills, implementation and action, and organization for planning. Various aspects of the British model are compared to the Dutch model. It is noted that since the models seem to fit the approach and experience of 2 countries with relatively well-developed rural planning systems, they should have some transfer potential. (PS)

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RURAL PLANNING, ECOLOGY AND RURAL DEVELOPMENT: MODELS BASED ON DUTCH AND BRITISH EXPERIENCE

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INTRODUCTION

Rural planning as a body of integrated concepts and validated interrelationships is primitive indeed (Weller, 1967; Green, 1971). There is a most profound need for consolidation of tested knowledge on the subject. Understanding and appreciation of formal planning procedures as an approach and process for realizing opportunities and solving problems is often a missing ingredient in local government. Local officials responsible for regions containing large rural territories and populations do not always know how to discover and use the knowledge available for decision-making, nor how to link existing knowledge to effective action in dealing with the multiplicity of issues with which they are constantly confronted.

This paper begins from the assumption that a well designed system of planning can help create a dialogue among local officials, citizens and professional contributors to rural planning, which can lead to more adequate resolution of crucial public issues. The Dutch and British experience is used to evaluate a series of "models" for rural (i.e., non-metropolitan regions) planning and rural development which attempt to account for a broad range of ecosystem variables.[1] Models of action-planning systems, planning methods, and implementation schemes are developed and discussed in the perspective of experience within these two countries, as a means of putting to preliminary test the applicability and utility of the models. Both countries have a much longer history of formal attempts to plan for rural people and environment than the U.S.

Definitions and Dimensions

In its broadest sense planning can be defined as the process of:

1. Identifying the complex of factors which contribute to the creation, change or development of a social or physical entity (i.e., a community, region, business, nation);

2. Studying the interrelationships and interactions of the factors, in terms of their relative or specific contributions to the realization of some final or intermediate consequences;

3. Determining as precisely as possible the degree to which a specified unit of change in any one factor contributes to change in one or more other factors;

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[1] Ecosystem as used here includes both human and non-human elements and activity; i.e., "a system made up of a community of animals, plants and bacteria, and the physical and chemical environment with which it is interrelated." Websters New World Dictionary, Second Edition, New York: The World Publishing Co., 1970.

4. Predicting how changes in any one factor ought to be made so that the future society and environment will achieve an improvement in well-being without deterioration or destruction of the life support system;

5. Acting on these predictions to achieve a more optimum ecosystem (Glikson, 1971).

Figure I develops the definition somewhat further in graphic form. This conception assumes that one of the basic reasons for planning is an inadequate connection between knowledge and action. Planning becomes the linking mechanism, and the series of processes, which help to assure that basic and applicable information will be directly tied to action processes at appropriate points and time periods. Much existing knowledge is not directly translatable by the potential users into forms perceived as relevant to action; planning activity can assist with the translation process, and may also define gaps in knowledge which require basic and/or applied research if problems are to be solved or opportunities realized.

Figure II suggests the potential relationships between planning, basic knowledge sources, applied research and development, policy and decision systems, user systems, individuals and organizations responsible for promoting change (change agents), and the various dimensions of government activity--such as coordinating knowledge and action, monitoring the supply and use of knowledge, facilitating better systems for knowledge use and evaluating the adequacy of each component in the macro-system as well as the adequacy of the linkages.

Taken together these diagrams define some of the general functions of planning and how the process relates to other levels of organization within the larger society. The important point to be drawn from this brief discussion of definitions is that planning activity is quite obviously a very practical and crucial enterprise if problems and opportunities at the human or biological or physical levels are to be creatively and rationally resolved.

THE UTILITY OF RURAL PLANNING MODELS: DUTCH AND BRITISH ILLUSTRATIONS

Among the industrial and non-communist countries, the Netherlands and the United Kingdom are reputed to have the most highly developed systems for rural and regional planning. Since the United States is in many respects "underdeveloped" in attempts to conceptualize and implement rural planning schemes, I chose to spend several months in these countries studying the design, organization, and implementation of

FIGURE I

THE ROLE OF PLANNING IN ECOLOGICAL SYSTEM MAINTENANCE

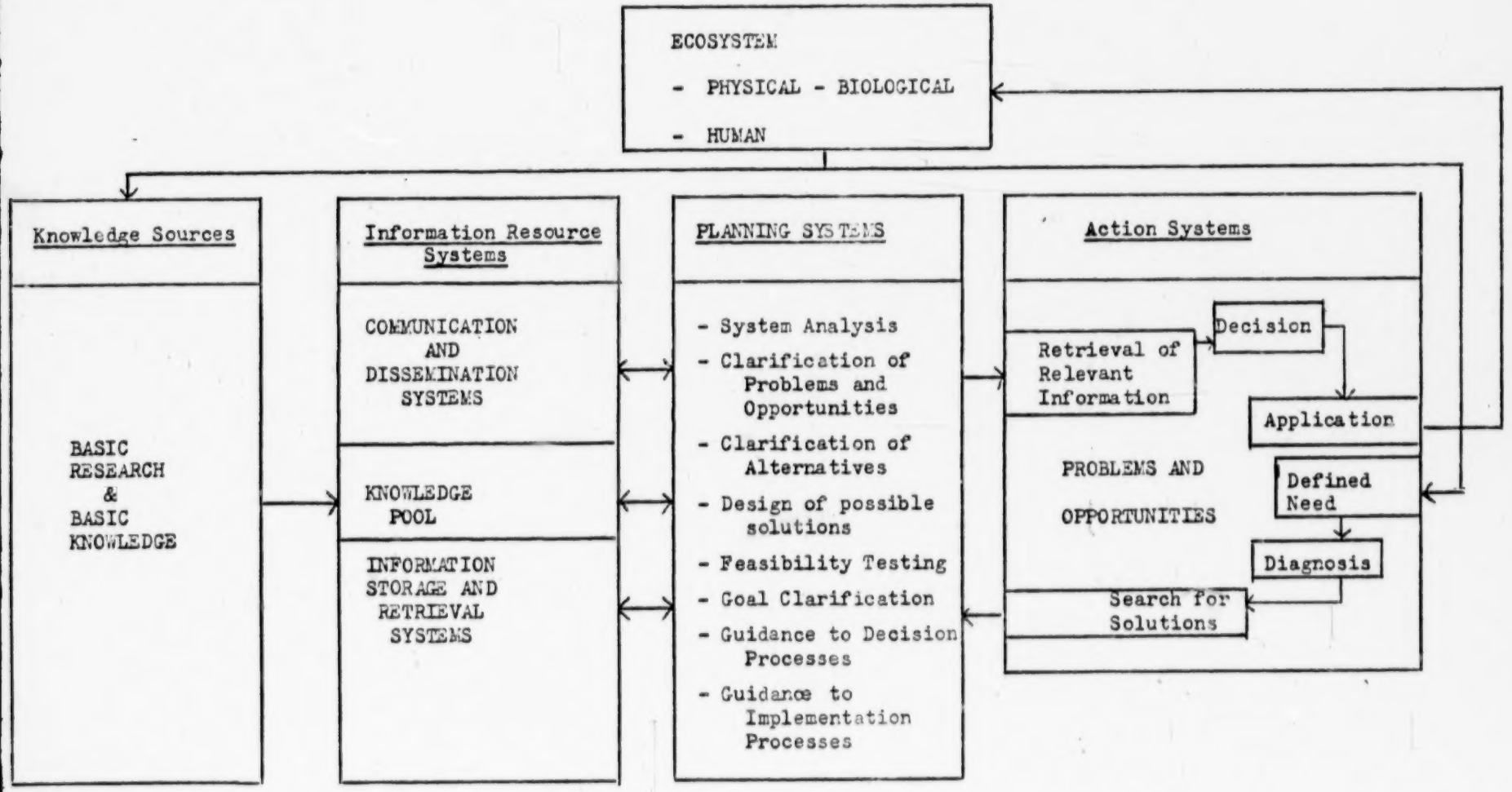
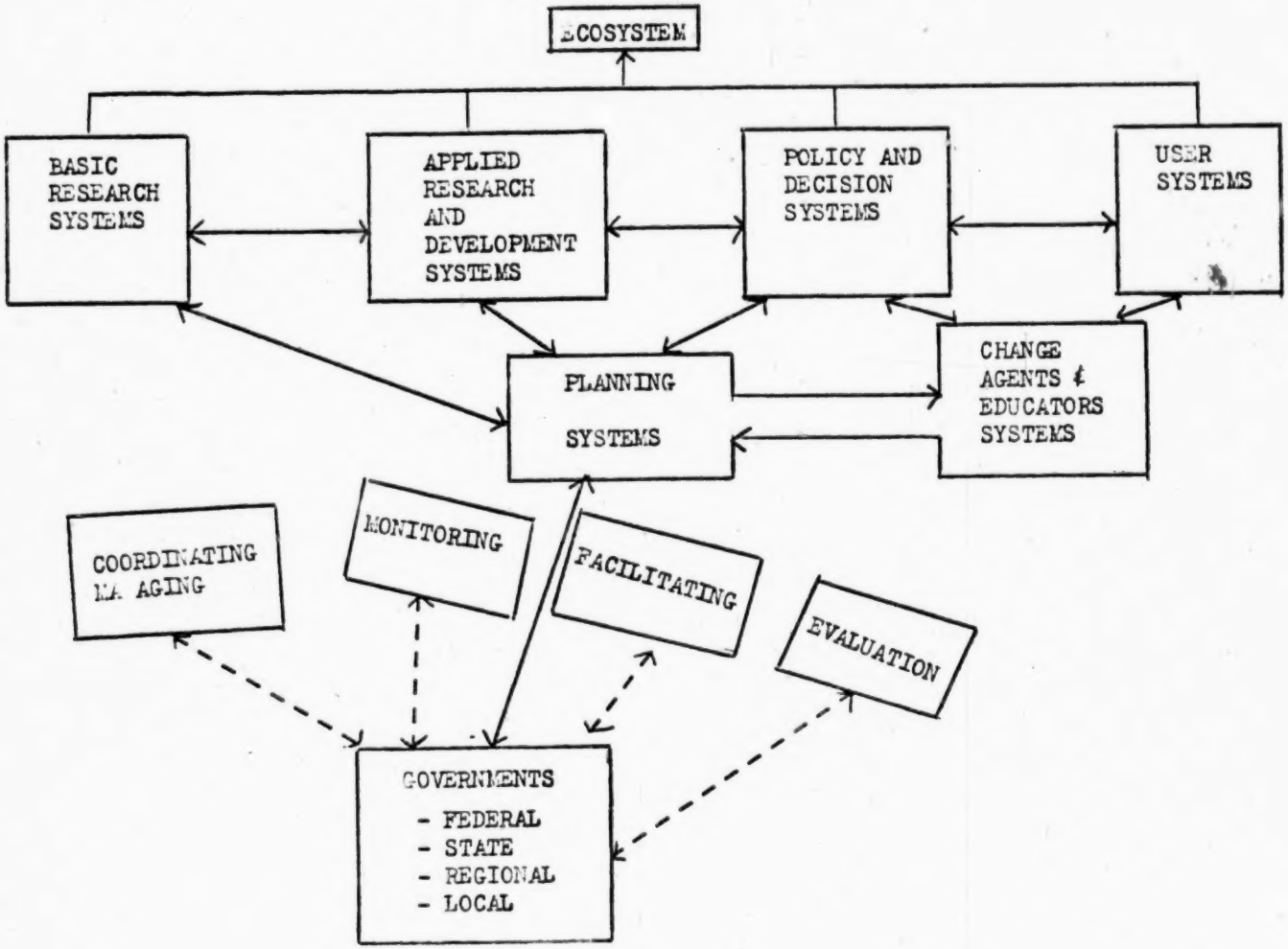


FIGURE 2

MACRO-SYSTEM OF PLANNING LINKAGES



land use and social planning systems.[2] The conceptual and operational models described here were developed as a partial result of these observations, although neither country supports planning systems which overlap entirely with any of the models as outlined. Successful applications of some of the subsystems are clearly underway; however, little empirical research evaluating the schemes is available. Hence, the observations in the following pages are largely based on a series of interviews with planning officials and scholars; reviews of literature describing the operation and results of rural planning were undertaken, but these reports were generally couched in descriptive terminology which did not allow for direct testing of model applicability.

The Dutch Experience

The Dutch probably have been more energetic about implementing rural and regional planning than any other nation, in large part (the Dutch insist) because they are the most densely populated among industrialized countries and have a long tradition of pragmatism and inventiveness in dealing with technical and social problems. The Dutch operate within a system very much like that outlined in Figure 1. Over the past half century a series of highly professional research institutes and university research centers have evolved; these institutions tend to be problem oriented and attempt to understand and develop practical resolutions for the principal issues that arise. The emphasis in most of Dutch planning has been on "physical" design, as particularly exemplified in development of the Polders (lands reclaimed from the sea), and in rural reconstruction projects which are reallocating and reorganizing agriculture in more than half of the rural regions of the country (Locht, 1971; Constandse, 1972; Wyers, 1970).

A highly formalized system of land use planning exists for every municipality and rural area of the country, and coordinating mechanisms operate at regional and national levels. Although the systems for social and economic planning are less formalized at the local level, the national government organizes, directs and implements one of the most complete social planning programs of any nation,

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[2]Land Use Planning as used here includes a broad range of factors impinging on land: physical, biological, cultural, historical, legal, political, economic, landscape and physical structure design, and structures implanted on land. Social planning is specifically concerned with the forethought and action directed toward the improvement or optimization of human well-being, including land use considerations.

literally encompassing human activity from cradle to grave. The incidence of social pathology is lower in the Netherlands than in any other industrialized country (Hofstee, 1972). The precise details of how and why this prevails has not been well documented, but the credit is usually given to a combination of tightly knit family structure, well organized and efficient communities, and a national commitment to planning for and providing the resources to assure that no individual suffers from the deprivations of poverty, disease, or other evidences of social inadequacy.

The macro-system of planning linkages as illustrated in Figure 2 appears to function extremely well in the physical planning arena, but in less systematic and formalized (although apparently effective) fashion at other levels. Because the Netherlands is compact, it is somewhat less difficult to monitor and manage the entire system from the national level, as compared to the United States or even the United Kingdom. Yet the fact that the Dutch are able to achieve a high level of success in macro-planning suggests that other nations, or regions within nations, might learn from the Dutch approach.

The Elements of Rural Planning and Contributing Sciences or Skills

If an ecosystem's approach to rural planning is to be implemented, it is important to define the major dimensions of knowledge which must be a part of the input or information content on which planning is based. These major input factors, key processes and output goals are tentatively outlined in Figure 3.

The factors and processes diagrammed in Figure 3 are expanded in Table 1 to indicate the more specific subjects for study and the kinds of skills or disciplines required to adequately deal with each factor and process. At this level the system becomes sufficiently complex to suggest that public planning must involve most of the knowledge dimensions and disciplines of the typical university, and can apply directly or indirectly to most government. This must be true in fact if planning is to be reasonably comprehensive and if it is to serve as the kind of advanced tool which adequate government requires in the present age.

This does not necessarily imply that "planners" become the central figures in the design and preparation for the future; rather, the group of professionals responsible for planning become highly skilled intermediaries or linking channels between universities, research institutes and government, with responsibility for

FIGURE 3

CONCEPTUAL RELATIONSHIPS AMONG PLANNING ELEMENTS AND PROCESSES

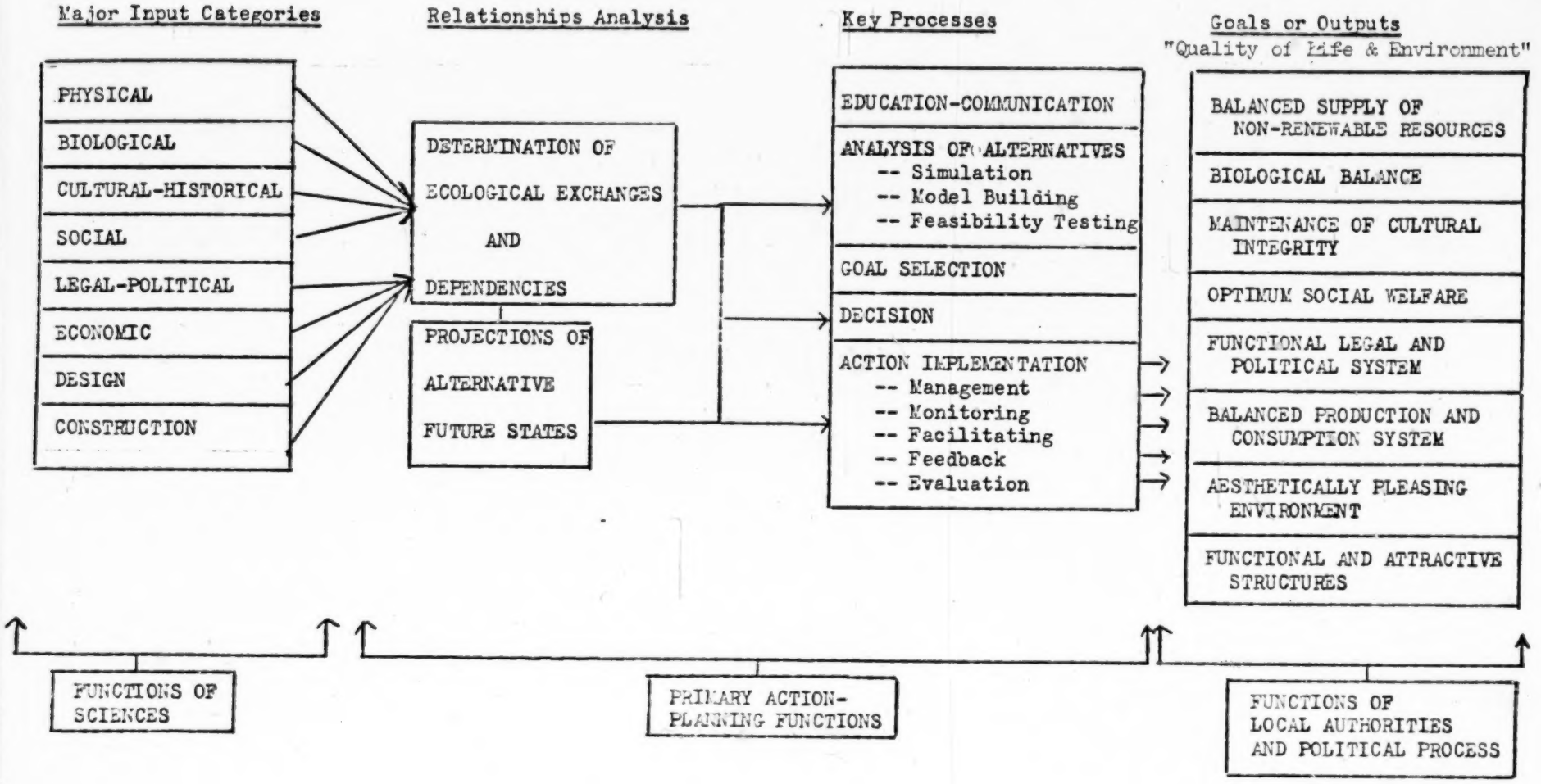

TABLE 1

FACTOR INPUTS AND RELEVANT KNOWLEDGE/SKILLS REQUIRED FOR RURAL PLANNING IN AN ECOLOGICAL CONTEXT

Physical	Relevant Knowledge/Skills	Biological	Relevant Knowledge/Skills
Surface and Subsurface Earth Formations	Geology & Subdisciplines	Vegetation	Botany, Forestry, Agronomy, Horticulture, etc.
Land Forms	Physical Geography, Geomorphology	Animals (land) Herbivores, Carnivores] Decomposers	Zoology, Animal Husbandry, Wildlife
Soils	Soil Sciences		
Water	Hydrology	Aquatic Animals	Fish Culture
Climate	Climatology	Land Microbes	Microbiology
Precipitation, Air	Meteorology, Microbiology	Water Microbes	Limnology
Solar Energy	Physics	Natural Processes in Nature	Nature Conservation, Ecology
Fossil Energy	Engineering, Chemistry		
Design	**Relevant Knowledge/Skills**	**Economic**	**Relevant Knowledge/Skills**
Landscape	Landscape Architecture	Land Tenure	Land Economics
Buildings	Architecture, Civil Engineering	Land Price & Exchange	Finance
		Employment	Demography
Transportation	Civil Engineering	Business & Industry	Business Administration, Organizational Science
Sanitation Systems	Sanitary Engineering, Microbiology	Transportation	Transportation Economics
Communication Systems	Electrical Engineering Communication Science	Economic Growth	Development Economics
Activity Spaces	Location Science	Public Investment	Public Finance
Mapping, Graphics	Cartography, Graphics, Audio-Visual Science		

Table 1 (Continued)

Cultural-Historical	Relevant Knowledge/Skills
Existing Cultural Artifacts	Anthropology
Cultural Experience	History, Cultural Anthropology
Political, Social, Economic & Technological Experience	History

Social	Relevant Knowledge/Skills
Rural Social Organization	Rural Sociology
Rural Social Institutions	Rural Sociology
Rural Recreation Activity	Rural Sociology
Political & Government Organization	Political Science
Rural Family Life	Family Life Sciences
Values, Beliefs, Attitudes, Goals	Social-Psychology

Political-Legal	Relevant Knowledge/Skills
Political Ideologies Related to Planning	Political Science
Planning Laws & Statutes	Lawyers, Legislatures
Structure of Local Government	Political Science
Operation of Local Government	Political Science
Ordinances & Zoning Regulation	Attorneys, Local Officials
Federal & State Agencies with Planning Responsibilities	Government Sciences

Interrelationships among Factors	Relevant Knowledge/Skills
Physical, Biological	Ecology: Physical, Biological, Chemical
Human Interrelationships	Human Sciences
Quantitative Interactions	Statistics, Computer Sciences
Non-Quantitative Relationships	Conceptual-Relational Sciences
Implications of Interrelations	Planning Sciences

Projections of the Future	Relevant Knowledge/Skills
Populations Projections	Demography
Employment Projections	Economics
Urbanization Projections	Urban Studies
General Land Use Projections	Land Economics
General Social Systems Projections	General Systems, Sciences of the Future, Statistics, Computer Science
General Life Systems Proj.	Ecology
General Physical Systems Proj.	Geography, Geology

Goals and Objectives	Relevant Groups
General Ecological Requirements	Citizens
General Alternatives	Policy Makers
Tested or Simulated Outcomes	Elected Representatives
Knowledge from the Planning Related Sciences	Planner-Ecologist, Action-Planners, All noted disciplinary experts as consultants

Table 1 (Continued)

Educational and Communication Processes	Relevant Knowledge/Skills	Alternatives for Action	Relevant Knowledge/Skills
Understanding of human and non-human ecological systems	Education Communication Sciences	Land and Resource Use Human Activity Systems Simulation of Alternatives	Physical, Biological Sciences Social Sciences Simulation Sciences
Planning Processes	Colleges, Universities Extension Education	Visualization of Alternatives Social Services	Cartography, Graphics Public Administration Sociology, Social Welfare
Organization for Planning	Community Organization and Development Political Science Organizational Science	Economic Growth Optimum Orgnaizational Forms	Economics, Political Economy Regional Science Organizational Sciences Political Science
Citizen Involvement	Community Organization Group Dynamics		

	Implementation, Control, Monitoring	Relevant Knowledge/Skills	
	Planning Organization	Public Administration, Organizational Science	
	Legislative & Legal Tools	Political Science, Law	
	Management Information Systems	Communication Science	
	Citizen Involvement Processes	Community Organization, Community Action, Group Dynamics	
	Evaluation	Social Sciences, Ecological Sciences	
	Systems Management	Management Science, Management Engineering	

a comprehensive and interdisciplinary perspective. This requires knowledge and skills which enable them to achieve an overview of the entire system, and requires understanding of the interrelationships which neither specialized scientists nor most government officials are now able to fully comprehend.

Among the major input categories described in Figure 3, much credit is given to Cultural-Historical factors for the Dutch inclination to plan for the future thoroughly and in detail. Because that history has consisted of a long series of major projects to provide more space and amenity for an expanding population contained in very limited physical territory with meager natural resources, the need for detailed planning has long been recognized and accepted by the population and the leadership.

The Dutch are noted for their skills in each of the areas of input listed in Figure 3, and thus have a sound basis on which to make planning operate successfully. Likewise, they are noted for having achieved a high degree of success in the listed goal-outputs--although they must rely on international trade to acquire a major proportion of their production and consumption inputs.

However, it is less clear that the Dutch planning system has achieved a high degree of success in the formal interrelating of scientific knowledge fields or dimensions of planning input. Within research institutes and university disciplines knowledge tends to be highly differentiated, with little formal opportunity for interpersonal interaction, and little emphasis on quantitatively interrelating cultural-historical, social, economic, physical, biological, and legal-political variables. Knowledge fields tend to be integrated only at the governmental policy level, but government officials appear to have the kind of interdisciplinary perspective and experience which enables them to work successfully in planning teams. Recent efforts at integration of knowledge to achieve a comprehensive and integrated rural planning perspective have been impressive (Bijkerk et al., 1971).

Implementation and Action

The very complexity and obvious cost of planning content and process as defined here would appear to make public understanding and support a requirement if such a rural planning approach is to succeed. The record of success in the institution of comprehensive rural (or urban) planning is not encouraging in most

countries (Green, 1971). Any effort to implant such a system full-born would in all probability face major obstacles. It may be assumed therefore that the design and development of a reasonably complete rural land use and social planning system must start with the premise that a sustained educational and involvement strategy should accompany any effort to build such a system.

Active participation would seem to be best instituted through a systematically designed leadership and citizen involvement effort which becomes the basic mode of operation for the planning system. A sequential model for such involvement is presented in Table 2. The participation model as outlined is comparable in many respects to social action processes widely used in cooperative extension programs in the U.S. and requires a high level of interpersonal, small group, organizational, and general leadership skill among the action team if it is to be sustained. Formal preparation in such skills has not usually been a part of training for land use planners, but has often been considered the particular skill of community development professionals. It is in this arena where the applied behavioral sciences may have knowledge and experience to offer. The application of concepts and approaches of laboratory training, behavior modification, organizational development and other such behavioral approaches can provide much of the key input to initiate and sustain an effective and democratic participation scheme. However, this may also be the dimension of planning process where further basic and applied research is most crucial, since application of the system is of little ultimate use unless those affected by its results can understand and support the consequences (Friedmann, 1969).

The planning process and participation model (Table 2) is essentially similar to the Dutch system for physical planning. However, the professional planners and local authorities are sufficiently forceful and authoritarian that citizens often have a difficult time in altering plans once they are presented for public scrutiny. Nevertheless, the determined protagonist has available to him a formal process through which alterations can be pursued in a legally required review by higher authorities. The rights of the individual to participate and offer an input to physical planning is carefully protected (Strong, 1972).

However, this is not as clearly true for social planning. In these instances the process of citizen participation is primarily through elected representatives

TABLE 2

A PLANNING PROCESS AND PARTICIPATION MODEL

Planning Authorities		The Public		
Elected Representatives In Local Government	Appointed or Elected Planning Boards or Council	Organized Groups	Mass Media (TV, Press, etc.)	Inactive but affected citizens
Hired Professionals		Articulate spokesmen		
Announcement of Intent to Plan		⟷ Awareness of problems or opportunities needing attention; public meetings		
Isolation of Issues needing attention through planning		⟷ Discussion and debate about planning related issues		
Review and response		→		
Collection of data relating to the relevant issues, through existing reports, surveys, census findings, etc.		← Provision of information, response to surveys, recommendations about needed input		
Analysis of data and information		⟷ Discussion, comment, interpretations, group and public meetings		
Publish Study reports, with planning objectives		→ Review, discussion, comment, criticism, Media reports and interpretations, Public meetings		
Review and response		↙		
Prepare alternative proposals for realization of planning goals		→ Review, discussion, comment, criticism, Statements of preferences		
Review and response		↙ →		
Prepare and publish proposals, containing priorities, rationale, procedures for implementation		→ Formal review and debate, submission of criticisms and recommended alterations		
Review and response		↙		
Revise and publish a formal set of plans		→ Filing of formal objectives for review by higher level authorities		
Review and response		↙		
Implementation of Finally accepted plans		→ Continuing discussion, debate, proposals for change		
Review and response		↙		

to the national parliament--which in a small country appears to be a reasonably effective, if occasionally perplexing mechanism.[3]

Organization for Planning

The variety of disciplines required for the complete planning system suggested in Table I implies a very large "team" of specialists. Obviously it would be most difficult to maintain such a team for continuous planning programs. A more appropriate form of organization might be based on the "temporary" systems concept explored by Bennis, in which teams are formed for the achievement of specific tasks and then dispersed when the task is completed (Bennis, 1969 and 1970). Only a small group of individuals with a broad interdisciplinary training in the major concepts, content and organization for planning would be employed full-time, with direct responsibility to local or regional government authorities. Resources for completion of the specialized tasks would be allocated to temporarily employed individuals or teams of consultants.

A design for such an organization is outlined in Figure 4. The system would draw upon the specialized skills of university faculty, private consultants, research institutes, government agencies, and wherever else the skills might be located. Although such an approach would obviously require increased flexibility of professional personnel policies in both public and private institutions, it would at the same time provide an opportunity for specialists to engage in activities within the public arena in a manner that should be quite healthy for both the individuals and their home institutions; it would involve them directly in attempting to integrate their central disciplinary variables with other disciplines, and might stretch them into a larger appreciation of the relationship between their field of knowledge and some of the key issues facing contemporary rural (and urban) society and ecosystems.

In fact, this kind of system is already in operation to a significant degree, but has been neither legitimized nor fully developed as a contemporary approach to planning. The reward structures within public and private institutions, and the attitudes of the public and administrators, are often antagonistic to the effective

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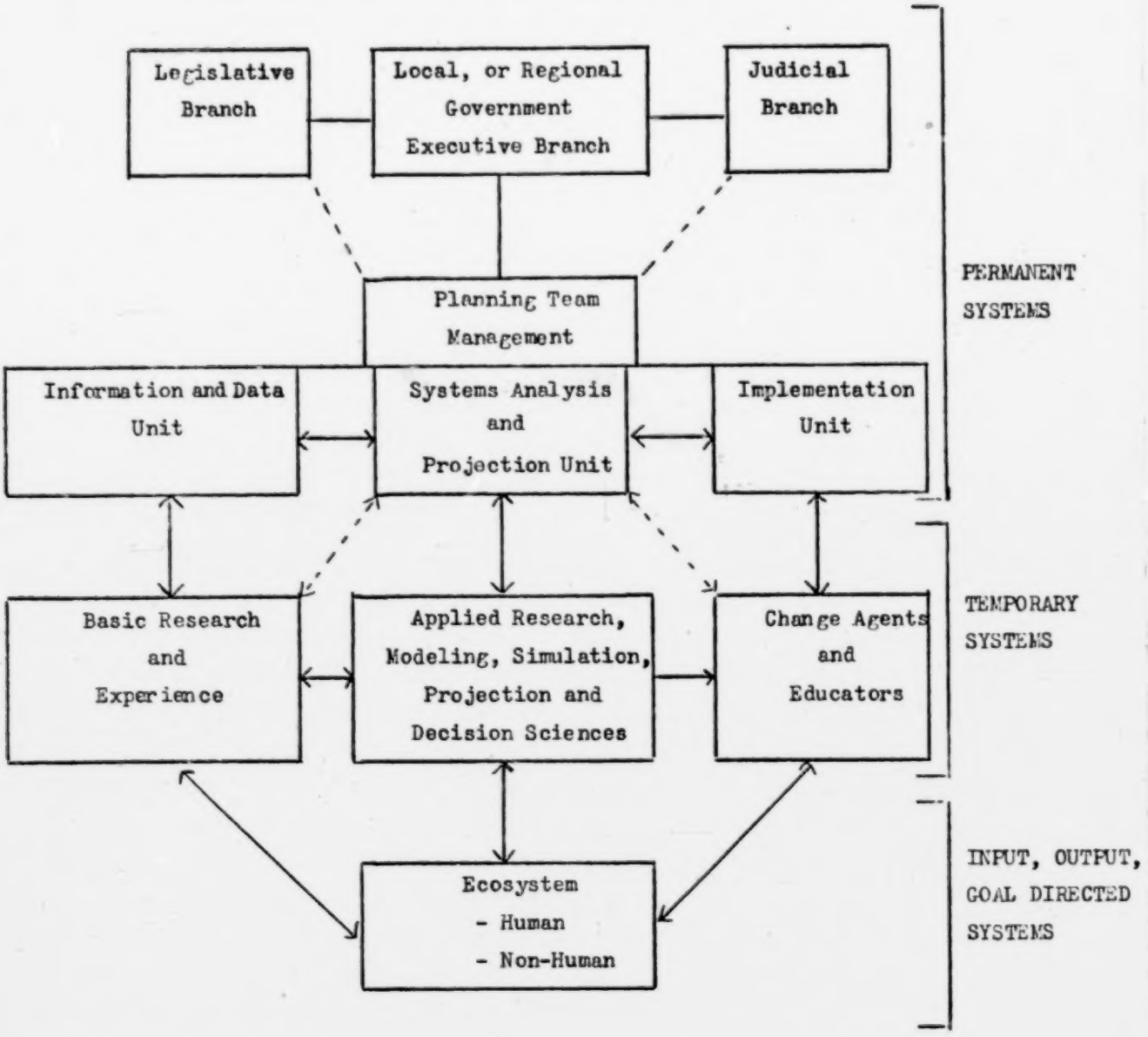
[3] More than 20 political parties participated in the most recent election, and 14 of these won seats in the national congress. It took several months to form a coalition government.

Figure 4

A TEMPORARY SYSTEMS APPROACH TO PLANNING ORGANIZATION



operation of such a system. Yet these institutions control a vast proportion of the highly skilled professional personnel which, one might assume, should be directed to resolving the future oriented social, economic, biological, physical, and other issues that face rural populations and territories.

The Dutch organization for planning tends to have each of the systems noted in Figure 4, but on a permanent basis. The only evidence of "temporary systems" is in the use of consultants for physical planning, and advisory groups from universities and research institutes for other planning components. A large and sometimes frustrating bureaucracy has grown to fulfill each of the organizational components, some of which may in part duplicate each other.

In summary, the models as developed seem to fit the Dutch system of planning reasonably well, except for the apparent failure to fully integrate land use planning with social planning. Knowledge from the behavioral sciences does not appear to have been as fully applied as other fields, particularly with respect to issues of organizational design and citizen participation. The Dutch system tends to operate on an authoritarian organizational model, although the right of highly determined individuals to protest is legally protected.

The British Experience

The United Kingdom may have the most highly effective system of land use and social planning of any non-communist nation (Wibberly, 1973). However, it does not appear as pervasive nor as authoritarian as the Dutch system, because it provides for more persistent citizen participation and has achieved widespread response from the public in exercising the responsibility. The British system has developed through a long series of Parliamentary acts defining planning organization and requirements (Sturge, 1969). Planning authorities are given broad responsibilities to deal with each of the input categories and systems in Figure 3, but in contrast to the Netherlands, there is a strong requirement to integrate the various dimensions of planning at the county level (counties in the United Kingdom correspond roughly to regions in the Netherlands and to states within the United States, although with sharp differences in size and relationship to the federal level).

The United Kingdom is currently implementing a rather thorough reorganization of local government, which attempts to integrate planning (both rural and urban)

in a much more systematic fashion than has heretofore been required (Local Government Reorganization Act; see reference list). Many local government authorities have received substantial training in land use and social planning, and thus have a highly developed appreciation of its role in local government (Lassey, 1973).[4]

Although the Dutch take the biological factors into account in the planning process, the British are much more openly conscious of ecosystem considerations and are clearly attempting to institute the models outlined in Figures 1, 2, and 3, albeit with varying degrees of success in rural territories (Green, 1971; Weller, 1967; Wibberly, 1973). The British are not as prepared to accept the kind of uniformity and order that is characteristic of Dutch country-side and social order; there is a very strong effort to create and preserve areas of outstanding natural beauty (including structures) which further enhance the historic attractiveness of the country-side while maintaining ecosystem balance.

As in the Netherlands there is a considerable pool of most skills and knowledge dimensions outlined in Figure 3 and Table 1, with the notable exception of behavioral sciences as they apply to planning issues. British sociologists are heavily oriented to historical social theory, particularly as it relates to urban society, and there is a severe scarcity of either sociologists or psychologists with rural concerns. Hence, the schools which purport to educate land use and social planners tend to lack scientifically based behavioral science content and ignore much of the potentially relevant social theory particularly as it applies to the implementation of comprehensive rural planning.

As a consequence, the completeness of rural planning systems throughout the United Kingdom is mixed indeed--with wide variation between counties and within counties. The contrast with the Netherlands in this respect is striking. The Dutch landscape tends to be much neater but also more uniform, and the application of existing rural land use and social planning rules is more uniformly imposed. This may arise in part from the more authoritarian tradition in the Netherlands, and in part from cultural-geographical-historical factors which distinguish the two countries. But the contrast may also arise from differences in the implementation strategies and action processes. The British education system, and general historical process, has placed strong emphasis on individual freedom of

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[4]This conclusion is not fully documented, but is based on reading of the literature on local government and planning, as well as interviews with local government officials.

growth and choice, at least for those individuals who demonstrate high intellect and who achieve the upper streams in educational process. There is a pronounced spirit of independence and individuality, particularly within the privileged stratum of society.

One consequence is a high level of conflict between farmers or land owners and the professional planners, with resolution of issues requiring a long process for achieving agreement among decision-makers on rural land use planning priorities. Because the planning process has in the past been slow and often cumbersome, with little public involvement, a recent report proposed a systematic process for public participation in planning (People and Planning; see the Reference list), which attempts to apply a kind of "social action" model essentially similar to Table 2. Formal evaluation reports on application of the model to rural land use and social planning efforts are not yet available; however, informal reports suggest a high degree of participation and significant citizen influence on planning decisions when the model is used (Lassey, 1973).

The British organization for planning tends to correspond to the design in Figure 4, but again only partially incorporates the notion of temporary systems. Many British academicians are associated with consulting firms which contract for components of planning process, but relatively few faculty work as consultants on an individual basis, with behavioral scientists most notably absent.

Further Comment

The utility of the conceptual and organizational models developed in earlier pages of this presentation are under scrutiny in substate regions within the U.S. (Lassey and Williams, 1973, in process). Since the models seem to fit the approach and experience of two countries with relatively well-developed systems of rural planning, they should have some transfer potential.

A major gap in both the Netherlands and the United Kingdom appears to be inadequate attention to behavioral science knowledge as it applies to the design, organization and implementation of rural planning systems. However, the Dutch have involved behavioral scientists to a greater degree than the British, and seem (on the basis of limited observations) to have achieved somewhat greater success at the organizational and implementation levels. British social geographers have in many instances assumed the role of behavioral scientist in the

absence of sociologists or other behavioral disciplines, and have usefully applied social research methods in planning efforts.

If rural planning in the U.S. is to benefit from the experience of these two countries, it may help to understand clearly the models used and how they seem to have functioned in achieving the established goals. If we want to be more helpful and effective in applying this critical area of knowledge to planning it behooves us to get on with the research, education and involvement which will make our knowledge more clearly relevant and applicable.

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